

Dr. C. EUGENE RIGGS read a paper entitled

PARAPLEGIA ARISING FROM HEMORRHAGE
INTO THE SPINAL CANAL, DUE TO PER-
NICIOUS ANÆMIA.

(ABSTRACT.)

Mrs. B., aged 45 years, was referred to me in September, 1895. She was paraplegic and exceedingly anæmic, the paraplegia, however, being incomplete; she could move her limbs but could not walk or stand. Her disease dated from a severe nervous shock three years previous. Her temperature during her illness fluctuated between normal and 100°. Examinations of the urine were entirely negative. Tactile sense was diminished over both lower extremities and over the trunk as high as the ensiform cartilage, being most marked over the area supplied by the anterior crural nerve. Temperature sense was normal while that of pain was diminished. Rectus clonus was present in both legs; patellar reflexes were exaggerated. There was no ataxia; no lightning pains.

The superficial reflexes were practically normal.

On October 21st the blood count showed 2,264,000 cells per cubic millimetre, representing a count of eighty squares. Hæmoglobin 30%; adherent poikilocytes, microcytes, megalocytes. November 27th another blood count showed 1,340,000 cells per cubic millimetre.

Post-mortem examination showed subject extremely white and but little emaciated. The spinal cord was removed anteriorly. Within the canal in the mid dorsal region was found a considerable extravasation of blood with a quantity of apparently serous effusion. The thorax was filled with serum, the pericardium was distended and the abdomen also contained a large quantity of serum. The blood vessels were everywhere empty and colorless. The heart was pale and flabby with a small clot of blood in each ventricle; the liver was enlarged; the spleen was dark and also enlarged. The

pancreas was enlarged and extremely fibrous; the intestines were thin-walled and pale; the lungs normal in size, full, and apparently healthy.

The spinal cord was hardened, the segments separated, and sections cut and mounted from each.

On examination with low power, the following degenerations were observed:

The anterior pyramidal tract, direct cerebellar tract, crossed pyramidal tract, column of Lissauer, column of Burdach, posterior external field of posterior column, column of Goll.

The area of degeneration extended from the first cervical to the fifth lumbar segments, being greatest at the sixth dorsal and the third cervical. All other columns of the cord were normal. Examination of the degeneration areas with high power showed axis cylinders and medullary sheaths in various stages of degeneration. Many of them were granular and others fatty. The degenerated columns especially, in the mid-dorsal region were shrunken and contained an excess of connective tissue. The gray matter appeared normal throughout.

Sections of the liver, treated with potassium ferrocyanide and acid alcohol, showed areas of fatty infiltration and degeneration, and an enormous deposit of hæmosiderin and hæmatoidin, both in the cells and in their trabecula.

Examination of the arteries showed thickening of their middle coat.

No apparent relation existed between the areas of degeneration and the mid dorsal clot noted at the post-mortem.

Taken as a whole it would seem that the scleroses were certainly not systemic in their origin, but probably were of vascular origin.

The findings in this case would seem to bear out Nonne's conclusions.

Dr. OSLER, of Baltimore, said: I should like to ask if there were any symptoms associated with the hemorrhage, which seems to be the special feature of the case. Absence of knee-jerk may be a very early symptom associated with the common sclerosis of the posterior columns in anæmia. I have seen recently a case of pernicious anæmia with all the features of a spastic paraplegia, which developed somewhat suddenly. It may have been due, as in Dr. Rigg's case, to a hemorrhage into the meninges.

Dr. J. J. PUTNAM, in discussing Dr. Riggs' paper, said: I desire to ask if there was any one spot of specially great disorganization of the tissue. In a case of this general sort which I observed some years ago, the paraplegia came on quite rapidly. I believe Dr. Riggs does not think the hemorrhage caused the paralysis.

Dr. RIGGS, in closing the discussion, said: It was very difficult to ascertain the amount of hemorrhage that occurred. There was no one spot of greater disintegration than any other and I do not think there was any special area of disorganization. I thought at first the hemorrhage was the cause of the paraplegia, but I subsequently changed my mind.